

Z88 EPROM

March/April 1992

Vol.6 No.2

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Club Addresses

All articles for Z88 EPROM and any membership matters (**except** Software Library) should be sent to:

**ROY WOODWARD
Z88 USERS' CLUB
68 WELLINGTON STREET
LONG EATON
NOTTINGHAM
NG10 4NG**

All requests for software from the Club Software Library, items for inclusion in the Library, and EPROMs for erasure should be sent to:

**IAN BRABY
THE SOFTWARE LIBRARY
Z88 USERS' CLUB
3/8 JENNER ROAD
GUILDFORD
SURREY
GU1 3PL**

Please note that the Library address is the one to use when sending for a list of Library programs - this list is **not** available from the main Club address. Be sure to enclose £1.50 for the list. Also note that this list now includes the CLI Library list.

CLIs for inclusion in the Software Library should be sent to:

**MICHAEL HEY
18 WOODSIDE ROAD
SANDIACRE
NOTTINGHAM
NG10 5GP**

ALWAYS include your Membership Number with any correspondence. This is not just to be awkward - now the Club is large it can be very time-consuming searching the database for a member's number. Your number is printed on the address label of each issue of Z88 EPROM. Please be sure to enclose a stamped-addressed envelope with anything needing a reply.

Editorial

You may have noticed that this issue of the magazine carries a two-month cover date, just like we used to have in the days of six issues a year. At the moment this is simply a device to try and bring us back onto schedule. By issuing this magazine dated March/April and then another dated May/June, I hope to get the publication back to something like normality. I am still very short of articles, and anything you send in will help speed the publication of future issues.

Rest assured that although this issue covers two months in time, it only counts as one issue when it comes to your membership, and you will still get the number of magazines you have paid for. It may be that a move back to six issues a year would be wise at some time in the future, as the number of articles I get is still very low, and also the "News" front of the Z88 has all but vanished, leaving very little new information for each issue. I'll keep you posted, but at the moment the regime will still be 10 issues per year.

I am planning to move house soon, something you might think of little interest to the average Z88 user, except that of course it will mean a change of address for the Club. At the moment it looks like the move may be towards the end of May, but as always these matters are far from certain until things actually happen.

Regarding mail, I will have the post re-directed from the Long Eaton address to our new address in time for the move, so nothing should go astray. The redirection will cover all Letter Post BUT NOT PARCELS, as this is prohibitively expensive. Remember that the term Letter Post covers all items sent by Royal Mail, whether they are letters, small packets or boxes. Parcels are defined as anything sent by Parcel Force, which thankfully are few and far between. The bottom line is this - if you are sending anything to the Long Eaton address, use Royal Mail. This includes Z88s for RAM upgrades, and everything else. As always, send anything of value by either Registered Post or Recorded Delivery. I hope to be able to confirm the move and give you the new address in the next issue.

This move does mean that the Credit-Card Order Line telephone number will no longer work once I have moved. Rest assured that as soon as I have the new number, you will be the first to know.

Newslines

512k RAM Upgrade!

Following on from the success of the 128k internal RAM upgrade, by the time you read this I should have the magic chips to be able to offer internal RAM of 512k!

Over 100 members have taken advantage of the 128k upgrade, and have found that it offers them a useful device space in RAM.0, where before the derisory 32k was normally unused and wasted. Now with 512k in slot 0, you should be able to use that device for your main files.

For those of you who have already had your machine upgraded to 128k, there is an easy upgrade path to 512k, which involves part-exchanging your 128k chip towards the cost of the 512k device.

The cost: To upgrade a basic 32k machine to 512k - £94.95.

To upgrade a 128k machine to 512k, part-exchanging the 128k chip - £59.95

As usual, remove all expansion cards and batteries from your Z88, and package just the machine itself in the grey plastic box, and send this in a large Jiffy bag or similar, to the Long Eaton address, by Royal Mail Recorded Delivery or Registered Post. I hope to offer the same service of about one week, but this will depend on getting sufficient supplies of the new chip, and also how many machines arrive for upgrading! I will notify you if the delay is likely to be very long.

Please note that I cannot upgrade any Z88 which has been internally modified, apart from my own 128k RAM expansion.

The 128k internal RAM upgrade is still available, priced at £44.95. All prices include VAT and UK carriage.

RangerUniverse 2

Ranger Computers have completed the new version of their Universe package, and are offering a reduced price for Club members.

The new version contains DiskFiler 2, the program needed to drive the Club's RangerDisk 2 disk drive system, and also the latest version of RangerLink, for fast Z88-PC communications. Both of these new versions contain conversion utilities which allow you to save files to either the PC or disk drive, and the files will be modified as they are saved to a format suitable for either WordPerfect or WordStar to read.

The standard price of RangerUniverse 2 is £125 + VAT and carriage, but Ranger have kindly offered a special deal for Club members, of £99.00 + VAT and carriage, saving over £30. This price is particularly good when you consider that the 256k EPROM containing the programs normally sells at about £65.00, and the package includes a copy of the latest version of SpellMaster.

Z88-Z88 Cable

Following the various articles on linking two Z88s for the transfer of files between them, I have decided to offer a ready-made cable for those of you who want to do this, but don't have the required expertise/equipment to make up your own cable.

The cable is about 0.6m long, and has the correct type of connectors for the recessed D socket on the Z88s - ie. the cable plugs in flush with the Z88. Price is £11.95 including VAT & UK postage, from the Long Eaton address.

Helpline

If you have a technical query, write to one of our Helpliners listed below. Please note that you should include a stamped addressed envelope or sufficient return postage for your reply.

CLI Files - Contact Michael Hey by post only at: 18 Woodside Road, Sandiacre, Nottingham. NG10 5GP

Z88 to Amstrad PCW Link - Please write in the first instance to: Mr A West, 16 Southway, Burgess Hill, Sussex. RH15 9ST.

zBASE, CLI and all Wordmongers products except TX and Comms software - Contact Jason Crook (ex of wordmongers) at TPR. J.S.A. Crook, 4TP B SQN, The Royal Hussars (FWO), Swinton Barracks, BFPO 17. I will also write to order in zBASE.

Z88 EPROM - March/April 1992

zBASE - Help on commands and programming. I can accept info/programs on paper. EPROM, zTape cassettes or IBM disk. Contact Robin Jarvis, 27 Gloucester Road, Waterlooville, Hants. PO7 7BJ.

Z88 to Amstrad CPC Link - Contact Duncan W. Kennedy at 32 Otterston Grove, Dalgety Bay, Fife. KY11 5PA.

BASIC Programming - Contact Richard Russell at 59 Campbell Road, Gravesend, Kent. DA11 0JZ.

Anything Educational - Please contact Bob Shore, 8 Anchor Close, Hathern, Leics. LE12 5HP. Telephone 0509 842670.

Machine-code Programming - Please contact Richard Smith, 29 Sandhouse Crescent, Scunthorpe, South Humberside, DN16 1JF.

Printer Setups - Please contact David Stewart at 44 Margetts, Hemingford Grey, Huntingdon, Cambs. PE18 9EP. If you have any queries concerning general printer problems, eg. correct use of cables, how to connect up the printer, printer code language, understanding the information in the printer handbook, etc. please write to David. Notes on Printing, covering the above topics, are available by post from David. Price £3.00 including postage for 40-odd pages of detailed advice.

File Transfers - Free file transfers to/from most formats, (NOW INCLUDING AMIGA). 10 files max. and must be Z88 related - no commercial programs copied. Send disk and pre-formatted copy media, with Club Membership and return p&p to: Phasor Video, Elcot Lane, Marlborough, Wilts, SN8 2AZ. Tel: 0672 514451 (2.00-5.00pm Mon-Fri)

Members' Letters

Ian Galletti (4533)
SY Rollon
St Georges Grenada

Dear Roy,

My membership renewal form has just caught up with me in this beautiful island of Grenada and I hasten to respond as I wouldn't want to miss any copies of your excellent Z88 Eprom.

My Canon BJ10e has just died on me after many months of excellent service. Only the occasional lock up which is easily cured with the fix from the April issue. But as you say it shouldn't happen. But then it shouldn't have died on me either!

It may have been my finger trouble that caused the problem. I had just returned from a 'Happy Hour' (every night at the local Boatyard Restaurant from 1730 -1830 hours) and was about to print out a copy of my 'Newsletter - 4' and had carelessly connected the power supply with a +ve tip instead of -ve and had then been distracted by something else. When I returned to the printer it was dead.

Normally when I make this mistake it doesn't seem to mind but then I normally realise immediately and change it. This time it had remained incorrectly connected for a longer period and this is what must have caused the damage. Perhaps there is a 'slow blow' fuse in the circuitry but if there is it is not obvious how one can reach it. I cannot see an easy way of taking the BJ-10e apart and the user manual doesn't help at all. It simply says, as you probably know, 'contact your service representative for assistance.'

There is one Canon agent in Grenada but I doubt whether they have even heard of the BJ-10e! Their engineer was not in, not surprisingly, on Saturday when I left it with them, so we shall have to wait and see. The reason I have the problem with the +ve and -ve tips is that I use the same 12 volt power supply for both the BJ-10e and the RangerDisc. They both use 9 volts but with different tips, hence the problem when I am tired or.....

The power supply I am using very successfully aboard Rollon is one from Tandy. It is an Archer DC Auto Adapter which outputs 6V @ 500mA, 9V @ 900mA and 12V @ 3A. As 900 mA is insufficient I have connected two of them in parallel to give a nominal 1.8A. I use another 2 set at 6 volts to drive the Z88 but must report a strange effect.

In theory one Archer Auto Adapter providing 6V @ 500mA would appear to be the equivalent of the Z88's own mains adapter but when I tried it I discovered that it began to overheat. Well, I thought it did but it is probably something quite different. The problem only arises when the Canon printer or the RangerDisc is connected. And the problem has remained even with the 2 power supplies in parallel.

The problem is as follows. The Z88 is fine when used with the power supply on its own but as soon as either the Canon or the RangerDisc is connected the Z88 screen goes blank and the Z88 power supply begins to overheat. If when in this condition the RS232 connector is removed from the Z88 then arcing occurs at the connection. I am baffled and can think of no good reason for this happening. I have tried to contact Hamilton Kilpatrick to discuss it but he has failed to return my calls. Have you got a rational explanation?

With the failure of my Canon BJ-10e I am stuck so have decided to send you this letter on an EPROM. As there is spare space on the EPROM I thought I may as well send you a copy of my 'Newsletter - 4' in case you would like to read it. It is of course nothing to do with the Z88 Eprom but there may be an indirect relationship one day.

On the way over my Satellite Navigator failed and so I had to revert to Astronavigation. I currently use my Casio FX-602P to reduce my sights but plan to write programs for the Z88 sometime soonish. I'm surprised/amazed that there are not already suitable programs in the library. An accountant friend of mine created one using the Pipedream spreadsheet facility but lost it when his batteries failed. He has not invested in any kind of secure storage medium though he has easy access to IBMs!

Anyway I shall feel much more relaxed when I have a Sight Reduction program on the Z88 to back up the one in my Casio. I have no desire to use the more laborious manual methods ever again. I'll let you have a copy when it is done.

Interestingly the SatNav manual was similar to that of the BJ-10e and advised me to 'Call Service Agent',- which is difficult in either the middle of the Atlantic or in Grenada. However when I faxed the makers they replied by return with some simple instructions requiring no more than a simple screw driver adjustment. Why didn't they put the instructions in the User Manual? I suppose the answer must be to enable their service agents to make money. When I had exactly the same fault 2 years ago it cost me over @300 to have it fixed. Incidentally, according to the instruction sheet sent to me they say that this fault can be expected every two to three years! Built in money for the boys! However the equipment is now obsolete so I suppose they don't want to be bothered anymore.

Dilwyn Jones (1058)
Tal-y-Bont, Bangor

Dear Roy,

The letter in Z88 EPROM 6.1.7 (February 1992) about my PipeDream/QL Archive conversion program has prompted me to send a copy to the Z88 software library. I wrote it, so I can do this. It can be used with any QL/Z88 file transfer software, and may come in useful to QL owners. If anyone wants a copy on QL disk before it is available from the library, just send me a blank, formatted QL disk with an SAE and I will gladly supply it, including source code.

Please note that my address in that letter was incomplete - it omitted the village name. Here is the correct address:

Dilwyn Jones, 41 Bro Emrys, Tal-y-Bont, Bangor, Gwynedd, LL57 3YT.

Hedley G. Wright (2946)
EDINBURGH

Dear Roy,

1 The contributors to the February issue of Z88 EPROM have not made full use of the text handling abilities of the Pipedream logical operators and arithmetical expressions and have consequently made heavy weather of the relatively straightforward task of automatically numbering paragraphs in documents.

2 This letter illustrates a method of performing the task.

3 Write out your document with the expression " " in the blank line preceding each paragraph which you require to be numbered, that is double-quotes, space, double-quotes, <>X. The document can either be originally written in column B or be written in column A then saved and reloaded at B1.

4 Adjust the width of column A suitably; 3 will be enough if there are no more than 99 paragraphs in your text.

5 You may then want to change the width of column B to, say, 70

characters with <>W and <>H and then reformat the paragraphs with <>R.

6 In A2 enter the formula IF(B1=" ",MAX(A\$1A1)+1,"") (use <>X), and restrict it to zero decimal places (<>LDPO) and, when all editing of the text has been completed, replicate it down the full length of your document in column A (the first quotes contain a space and the second ones contain nothing). Paragraph numbering will be automatic.

7 I you wish to have a blank line without introducing a new paragraph number then just leave it completely empty.

8 On another subject - Can anyone tell me how to move Pipedream files over to an Apple//e as text files for Applewriter II or as Appleworks files?

Graphs on the Z88

By B.Blessed (1961)

One of the things I most miss on the Z88 is graphing. This is perhaps expecting a lot bearing in mind the limited screen size, but there is no such limitation on paper. Although displaying the full graph on screen is a problem, this should not prevent graphs being produced. Indeed, it is so much easier to interpret data presented in graphical form rather than as a table of figures.

The system presented here is but a small step forward, and I hope that other members will be able to offer improvements. A range of standard graphs can be produced, in miniature form on the screen map, a section at a time visible on the main screen area, while the full graph can be printed on paper.

The method used involves programming a page full of cells in PipeDream with the formula for the required graph. The formula must be 'patted' into the correct format before 'buttering' the spreadsheet with it.

Because this method uses a large amount of memory, it is far from ideal, but there are ways of reducing this somewhat.

A CLI file was created first, which established an empty graph sheet. There are 22 columns, labelled A to V, each 3 characters wide. Of the 54 lines in the page, you can program every line, alternate lines, or every third line. Which you choose depends on the detail you want, and how much memory you are prepared to use.

First, here is a part of the CLI file:-to start PipeDream #p to put cursor in cell A1, and press ENTER for you

```
|cgsl`e to set width of col A to 3, press ENTER, TAB to col B
|w3`e`t same for default cols A to F
|w3`e`t "
|w3`e`t "
|w3`e`t "
|w3`e`t "
|w3`e`t to add a col, set width 3, ENTER, TAB
|eac|w3`e`t same for more cols
|eac|w3`e`t
" |eac|w3`e`t up to col V
|eac|w3`e` cursor to cell A1
|cgsl`e
```

Create the CLI file and save it.

To take the simple example of a straight line graph, where $y = x$:-

With the cursor in cell a1, type in the expression $row = col$. When you press ENTER, a number 1 will appear in the cell A1. This is because in cell A1, $row = col$ evaluates to TRUE, and PipeDream substitutes the number 1 for this (and zero for FALSE).

Now replicate this formula across row 1 using <>BRE, copying from cell A1 to the range B1V1. Press enter and after a few moments the cursor reappears. Now replicate all the formulae in row 1 down the next 53 rows. Again use <>BRE, copying from cells A1V1 to the range A2A54.

Press ENTER and wait a while. PipeDream now has to replicate the formula over a 1000 times, then evaluate each cell. You will be able to see a diagonal line of 1's now running from cell A1 downwards. The map display is not yet very useful.

By altering the formula a little using the IF condition, the display can be significantly improved. Modify the formula in each cell to read :-

```
if( row = col , "*" , "" )
```

The effect of this is to print a star (or choose your own symbol), in cells where $row = col$ evaluates to TRUE, and nothing in cells where the condition is FALSE. Now the graph can be seen much more clearly, and what is more, the screen map shows a miniature version of the whole. Of course, it can now be printed on paper, but you might like to add axes labels and a title first.

Circles

The equation to try for a circle is:-

```
if(row^2+col^2<400,"*", "")
```

obtained by using:-

```
if((col-10)^2+(row-10)^2>64,"*", "")
```

distorted because the axes scales are not the same. The formula can be altered to fix this.

Hyperbola

For this the formula is :-

```
if(1/row+1/col>0.2,"*", "")
```

Sine waves

Try the formula :-

```
if(int(row+10-10*sin(col*2*pi/22))=20,"*", "")
```

A bigger wave can be obtained using:-

```
if(int(row+26-26*sin(col*2*pi/22))=52,"*", "")
```

An interesting variation on this is to plot the straight line AND the curve as follows:-

```
if(int(row+26-26*sin(col*2*pi/22))=52 | row=col,"*", "")
```

intersection of the two graphs can easily be seen.

Parabola

Modify the equation $y=4ax^2$ as follows:-

```
if(row=int(((col)^2)/4),"*", "")
```

This can be improved using:-

```
if(row=int(((col)^2)/10),"*", "")
```

and also to see both halves:-

```
if(row=int(((col-12)^2)/3),"*", "")
```

Cubes

As a finale, a graph of a cubical formula, and an interesting map display too. This formula departs from previous ones in not using IF, although it can be incorporated, naturally. The formula actually prints the cell value as a number, some positive and others negative:-

```
(row-27)-((col-12)^3)/64
```

It takes a long time to replicate, and even longer to calculate!

More on BOOT.CLI

By J. Morris (5063)

I was flicking through my Z88 manual when I found a couple of lines on a boot CLI. I had been looking for something like this since I bought the computer about six months ago, because it was the only thing I missed from my PC. According to the manual, if there was an EPROM in slot 3, and a file called BOOT.CLI stored on that EPROM, then whenever the Z88 was reset, that file would be fetched from the EPROM, and executed. At the end of the section is a little note suggesting it is a good idea to delete the boot file, copied into :RAM.-, after it has been used. It does not mention that if you do not, and the file is still there when you reset the computer, a soft reset will lock up the Z88, and only a hard reset will unlock it.

I decided to try my hand at writing a CLI to set the options on the Panel, put the Filer into the right device (:RAM.2), delete the BOOT.CLI file, to prevent a lock up, and finally to enter the clock, so it could be corrected if necessary.

Now -The 512k Z88 !

After upgrading over 100 Z88s to 128k internal RAM, we can now offer an internal upgrade for your Z88 up to a **MASSIVE 512k**, giving you an extra **480k** of RAM without using any more slots for just **£94.95** inc. VAT and carriage, or less than the price of a 512k RAM Card!

Remove all RAM and EPROM cards and batteries, then send only your Z88, well packed (preferably in its original plastic box), with cheque/P.O. for just **£94.95**, or your Access/VISA number, expiry date and card name and address. Be sure to use Recorded Delivery or Registered post for your own protection. We cannot be responsible for computers lost or damaged in transit.

IF YOU HAVE ALREADY HAD THE CLUB'S 128k UPGRADE:

YOU MAY PART-EXCHANGE YOUR PRESENT 128k RAM CHIP TOWARDS THE NEW 512k UPGRADE. SEND YOUR Z88 AS ABOVE WITH JUST £59.95 INCLUDING VAT AND UK CARRIAGE TO UPGRADE FROM 128k TO 512k.

IMPORTANT NOTES: This upgrade involves opening the machine and working on the circuit board. This work will invalidate any manufacturer's warranty still on the Z88, so unless you accept this do not send the machine for upgrading. Do not send your Z88 if it has any sort of fault - all machines will be tested before upgrading, and if any fault is found the machine will be returned immediately with a refund less £5.00 to cover postage costs.

The 512k RAM in slot 0 is fully available to PipeDream and the Filer. The upgraded machine **does not** behave like an Expanded Machine as defined in the Z88 Developers Notes (ie. one with min. 128k in slot 1). You do not get the 40k BASIC etc. unless you also have min. 128k in slot 1. See Developers Notes for more details on Expanded Machine.

**Z88 Users' Club, 68 Wellington Street
Long Eaton, Nottingham. NG10 4NG.**



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RANGER

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Z88 Price List

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Z88 (UK)	£189.95
Z88 (Ranger version)	£201.50
Z88 (Int. versions)	£215.95
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RAM MEMORY

32k RAM Pack	£15.95
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EPROM MEMORY

32k EPROM Pack	£16.95
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RangerUniverse 2	£99/125
PC PipeDream (3.5")	£99.00
PC PipeDream (5.25")	£99.00
Vision-100	£175.00
Z-Term	£43.50
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PERIPHERALS

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Diconix 150+ (P)	£345.00
Diconix Ink Cartridge	£13.00

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Z88 Developers Notes	£40.00
Z88 BBC BASIC	£14.50
Z88 Magic	£14.95
Z88 Dabhand Guide	£14.95
Z88 PipeDream (Dabs)	£14.95
Z88 User Manual (CCL)	£17.00

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NEW from Ranger - RangerUniverse 2

All the most popular Z88 applications in one 256k ROM!

New features for 1992 include support for RangerDisk 2 and a variety of file format options that at last take the nightmare out of transferring Z88 files to Wordperfect 5.1! These features are only available in RangerUniverse 2.

New options in RangerLink 2 for the PC and DiskFiler 2 for RangerDisk 2 allow Z88 Plain Text files to be converted to formats compatible with Wordperfect 5.1 and many other wordprocessors. The transfer substitutes soft carriage returns for PipeDream's hard carriage returns, allowing paragraphs to be reformatted in the usual way. (A feat impossible for regular PipeDream or Plain Text files.)

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RangerUniverse 2 contains the latest versions of **SpellMaster** - without doubt the most popular application ever written for the Z88; **RangerLink 2** for quick file transfer to PCs; **DiskFiler 2** to drive the new PC-compatible RangerDisk 2 disk drive; **Vision/L Terminal Emulator**; **EPROM**, giving Filer-like access to files on EPROM; and finally **Space**, an invaluable pop-up which displays the amount of file-space remaining in your Z88.

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The first two were simple, even in my first encounter of the CLI, but then I came to deleting the boot file. It was near impossible.

My first idea, before I realised I would have any troubles, was to simply type: #F|ER:RAM.-/BOOT.CLI^E^E^I

To enter the Filer, delete the file and return to Index. This returned the 'File In Use' error message. I suppose I should have realised I could not have done this.

Then I thought I might be able to get the computer to do what I wanted if I used the boot file to trigger another CLI, which could delete BOOT.CLI, after it's purpose had been served, and then set up the Z88 how I wanted it.

BOOT.CLI looked something like this:

```
#F|EFSETUP.CLI^E^E|EXSETUP.CLI^E
```

To enter the Filer, fetch SETUP.CLI from the EPROM, and then execute it. SETUP.CLI had the instructions to delete BOOT.CLI, and then to set up all my options.

This would not work either, it looked as if this was because the command to execute SETUP.CLI was in BOOT.CLI, so until it had finished, BOOT would not have finished, so it could not be deleted.

I almost gave up, and thought of having a separate CLI to delete the file, it would have been a bit quicker than deleting it manually. But I'd spent so much time on it I couldn't give up now, so I persevered...

Then, as I was flicking through a back issue of Z88 EPROM, inspiration struck in the form of Leo Gajsler suggestion for a Pipedream autosave facility, using the Alarm. Why couldn't I set the Alarm to delete the file, and then enter the clock to set it.

This is the BOOT.CLI file I came up with, it resets the clock to 00:00:00, then sets the alarm to delete the file at 00:00:21, then load the clock, then sets all the options, and then waits for the alarm to do it's job. I had to set the alarm to delete all the files in :RAM.-, using *.* , because it uses less space in the 'Reason/Command' box.

```
#T
```

```
^R^E^D00:00:00^E^E
```

```
#A
```

```

^R^E^D^0^0^:0^0^:2^1^D^#^F^| ^E^R^:R^A^M^.-^/^.^*^E^N^E^D^D^R^D^E
^R^E^D^0^0^:0^0^:2^4^D^#^T^R^E^D^D^R^D^E
#S
^D^D^D^R^R^R^R^R^X^2
^D^D^R^X^2
"E
#F
|S^V^R^R^R^R^R^X^2^E

```

PSU REPAIR

By Ernie Sheppard (4885)

I was warned, at the last workshop, that the plastic "leg" (the Earth pin) on the Z88 mains unit, was fragile and liable to break. I was not of course told how to avoid the unit falling off the table, but sure enough the plastic leg broke in the fall.

As the mains unit was otherwise working well I was reluctant to throw it away but as far as I know the excellent Club spares service does not extend to "plastic legs". So out with the screwdriver and a bit of do-it-yourself. At this stage one should give the usual warning that electricity and lack of practical knowledge do not make a comfortable partnership. However the repair proved very straightforward and, at your own risk, I will advise how.

There are two types of mains unit (at least I have two) the older format with ventilation fins along half of the back and newer form with a smooth back. It was the latter that was damaged but I believe both to be essentially the same. Removal of the two screws gives easy access to the works. The transformer is held in place by a rubber sticky strip. The transformer can therefore be gently eased out, without danaging the two electric wires, to reveal an "L" shaped plastic base plate. This plate is in turn held only by the rubber tape, and can be carefully prised out and the remains of the plastic leg can then be removed.

A replacement for the plastic leg was simply obtained using the earth pin from a normal three pin plug. The rear of the replacement may be rather deeper than the original and a small projection on the "L" plate, to hold the pin in place, can be removed. The only area of danger is to ensure, in refitting the units, that the two

electric wire connections are not placed near the new metal leg - but the rubber strips allow the wires to be protected - better to be safe than sorry.

The result of a few minutes work is an up and running mains unit which is stronger and, I consider, better than the original.

Communicating With the PC

By Ernie Sheppard (4885)

While we all love our Z88 we must admit that one little failing is that it can crash - with a soft or in very infrequent cases a hard and total reset. Eproms are very useful but for short term files a backup to disk allows one to sleep easier at night. While RangerDisk is no doubt excellent equipment, it is, even at the new price, rather expensive in the present computer market. I needed to learn something of PC systems, for work, so I purchased a basic PC which provides my disk storage.

PCLINK and the excellent library programs make backing up files to a PC disk a very simple, if somewhat lengthy, task. My problem was that PCLINK cable had a 25 pin connection while my new machine has the 9 pin "joystick" type slot. Unfortunately Cambridge Computer do not provide the appropriate lead unless you purchase another PCLINK (I do not propose to add to the comments about this firm being unhelpful - I'm sure they have a perfectly valid reason). While not an expert by any stretch of the imagination, I have retained various magazine articles and with the manual and Z88 Magic (the book) I was able to get up and running. For anyone wishing to communicate with a PC the following wiring system has been tried and tested.

For a lead you could use a joystick extending cable and split the cable to make the correct connections. However a more professional look will be obtained by a cable with the male (one with pins) connector already fitted and a female connector to fit yourself. Various apparatus can be used to check which coloured wire goes to which pin but a battery, bulb and a few bits of wire will do just as well.

Connectors - looking from the front. Don't forget the left/right reversal when you get round to the business end (back). Soldering small wires into smaller holes is not easy but taking them out and replacing them in the correct place is a lot harder. Check twice and solder once, to quote a phrase!

Without trying to be too technical (as if I could) the RS232 connection is about as standard as most other things in the computer industry and you are unlikely to purchase an "off the shelf" lead, even with the above connections, which is going to work. Also because the Z88 pin 1 gives a constant 5 volt output (they tell me) even when turned off, it is not recommended to connect this pin. It is said you can manage with just three leads connected - but as this did not work for me I would suggest the following - but just to be safe check the manual for your PC to ensure the RS232 connections / mnemonics are the same.

Z88 PIN 1 - PC
2 TO 2
3 TO 3
4 TO 8
5 TO 7
6 -
7 TO 5
8 TO 4
9 TO 1 AND 6

Happy communicating.

Z88 & Amstrad PCW

By Maurice Poole (1613)

At the Workshop in October, a member caused some amusement by saying that one he had met at a previous event kept a list of what is on his Z88 - in a (wait for it) Filofax!

Now he's entitled to his fun, but it raises some serious points. First, I am a Time Manager user (not Filofax, it's rather different) and I don't feel sufficiently confident in the Z88's reliability to use it instead. The Z88 is very useful in many other respects, but I have had to do enough hard resets to make me very glad of my backups

on PCW discs. That is not a basis of confidence for essential diary use.

Now if one uses the Filer fully, with several directory structures, one will have some trouble remembering all the directory names to set up after a hard reset in order to get automatic ordering of one's files from [J]X Batch Receive. It's more serious than that: Batch Receive **won't work** if it can't find directories it wants, and for certain they won't be there after a hard reset! Currently I have a list of all my directories somewhere, on an odd scrap of paper. I am not sure it is up to date.

I could get the PCW to show the gobbledegook Locoscript makes of the Z88's "PIP"-imported contents (not printed out as I once did - never again!), but what a toil. Much better to be organised

Before I come to Workshops, lest something dire befall the Z88 (like leaving it dead with our leader for internal RAM upgrade, as last time) I make a point of backing up. I have found the benefit of [J]+P in Filer to get a full print of its contents, thanks to "Z88 Magic". But where to keep it? Now what about my Time Manager or even a Filofax?

Because I have had great benefit from PCW backups, and because there seems to be a great deal of interest in file transfers at all the workshops, I wonder if it would be of use to demonstrate this aspect? My method is the raw use of "PIP". Perhaps this is too much of a minority interest on its own. Having consulted our Z88/PCW Helpline Mr West I think there is enough in the PCW area to make a demonstration, with Locoscript/CPM/SETDEF/PIP let alone MAIL232 and Mini Office alternatives. Do you think it worth developing? What would members like?

One seemingly recurrent cause of problems is files "In use" when I come to save them. Recently editing one chapter of a major report, part of a List File in the expanded RAM.0, <>FN got this unhelpful remark; <>FS did too, so I saved the edited Suspended Activity to a separate file before <>PURGE and then reloaded it into a fresh Pipedream. Imagine my confusion on finding the file in its pre-edited state! Any explanation? Don't say it's impossible, I've thought that, but it happened!

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At an early stage of the same job, I spent several hours writing a chapter in one file of the list; on completion it was suddenly not there! The file was there, empty! I can't recall what I'd done, other than getting up to do something else for a change. It seems likely that I had attempted to save it, perhaps indirectly by <>FN, and I know the RAM involved was getting full at the time.

More recently a much less important document disappeared in a similar manner. Far less shocked, I recall that on trying to save it I'd received the dreaded "No room" message. Surely the Filer should behave more helpfully than this?

I have even lost files while using SqueezeZ-88. Note the careful use of words - I don't think SqueezeZ-88 was to blame! Unsqueezing a password protected file, again in a rather full RAM, I got "No room on target device" and pressed "Esc" as invited. There was the file, gone! It has happened before, probably similarly, but this was written immediately after the latest event. The squeezed size was about 3.2k,

I think, but the odd thing (the reason for unsqueezing at that time being to investigate it) was its declared unsqueezed value of "no size", whatever that meant! Any ideas?

What a session! Just updating this letter, I tried to save it back to the file I'd loaded: "No room", so I saved it to the spacious RAM.0, then curiously examined the source directory ... GONE, again! What is happening?

I am told of a bug in the Filer and a tendency for the Z88 to throw a wobbler when corruptions collect, when it would be good for it to be hard reset to initialise it afresh. This may explain the tendency to misbehave especially when RAM gets full. That's when hard reset becomes necessary, but surely it is the very time one doesn't want to do it?

Isn't all this an object lesson in not filling up RAM, archiving files to whatever medium is favourite? I now have a RangerDisk for this, but the Other Computer is not at all a bad idea. Another is EPROM. Surely, though, for the Filer to refuse to save should be enough, without throwing text away?

Things I'd like to see different in Pipedream include character numbering along the top. It is very good to be able to vary column widths but infuriating to have to count across, particularly when using different character pitches from one job to another. I am a LocoScript user on the PCW ... such user friendliness spoils one - I can accept its slow scrolling as a penalty.

It was good to see Messrs Woodward on the club stand at the Birmingham 'All Formats' Fair. I found a book I needed on another stand, but apart from that I was not very impressed with the rest of the fair. See you at Computer Shopper Shows and especially Club Workshops!

Top Totals

By K. H. Huggins (1009)

Schoolmasters and accountants have always taught us when adding columns of figures to put the total at the bottom. With a computer there is no need to do this and it is inconvenient for two reasons: firstly, it is less easy to insert an additional line, as we are always doing with bank accounts; and secondly, that, if there are more than 8 lines, the total is not in view when the file first appears on the screen on a Z88.

In view of this I have been in the habit of putting the totals, and even sub-totals at the top of the column so that they are instantly visible, and there are always free lines at the bottom for new entries.

For example:

acbh4			Home Bank	Credit	Debit	Bal
Apt11	(1)	(2)	Total	50.00	28.50	21.50
401			opening balance	50.00		50.00
406	407	11	Visa		9.50	40.50
414		DD	Gas		19.00	21.50

(1) cheques Cleared (date).

(2) Cheque number, SO or DD.

I hope that some of your readers may find this helpful.

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Library Update

At last! After what seemed like an eternity....a Library Update!! Yes! The Library is alive and well and still accepting new entries as well as modifications to some existing programs.

Before I enter into the additions and amendments, however, I should like to point out the following. Firstly, April sees the publication of the latest edition of the *Library List*. As those who saw the January edition will know, this just keeps growing and growing and so, unfortunately, so has the cost. Therefore, the new edition of the *List* will cost **£1.50**. However, this currently includes postage and packing, so it's not the jump in price it, at first, appears.

Secondly, to improve the flow of requests through the Library and through the sub-librarians, could you please ensure that, in future, you try and contain your demands to no more than 10 programs at a time.

Finally, I would be very pleased to hear from anyone who would like to act as an Amiga sub-librarian. Qualities required include some spare time, enthusiasm and, preferably, access to another computer to simplify file transfer from me to you! It would also be of benefit if you are using a commercially available transfer package, for the sake of conformity. Drop me a line, if you are interested!

And so, to the additions and amendments.

Amendments

Z010 Based on input from Jack Lawrie, Jim Armstrong has modified CALENDAR to increase it's performance. In so doing, it has grown to 5K.

Z151 Specifically, Z151C has been sprayed with anti-bug and a minor problem fixed.

Z156 Jack Lawrie continues to improve his own software, as well as that of others. GRAPHICS STORE has been improved, it's store added to and it has grown to 7.5K.

Additions

I continue to marvel at the variety of subjects the Library submissions address!

Z166 PIPEDREAM CALCULATORS by Jeff Lewis (0945). A variety of PipeDream calculators which can work out Dates (A), Percentages (B), a cumulative calculator (C), a trigonometric calculator (D), an imperial<>metric calculator (E), a metric scale (F) and a car-buyer's guide to profit margins (G). 14K

Z167 VECTORS by Dave Robinson (5118). A BASIC vector addition program. 1K

Z168 DECOR GUIDE by Brian Coutts (4810). A PipeDream calculator of paper and paint required to decorate a room. 1.5K

Z169 DESKJET PRINTER DRIVER by Ian Braby (0123). Written to drive the HP DeskJet 500. 1K

Keep those submissions rolling in!

Ian Braby MRPharmsS

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